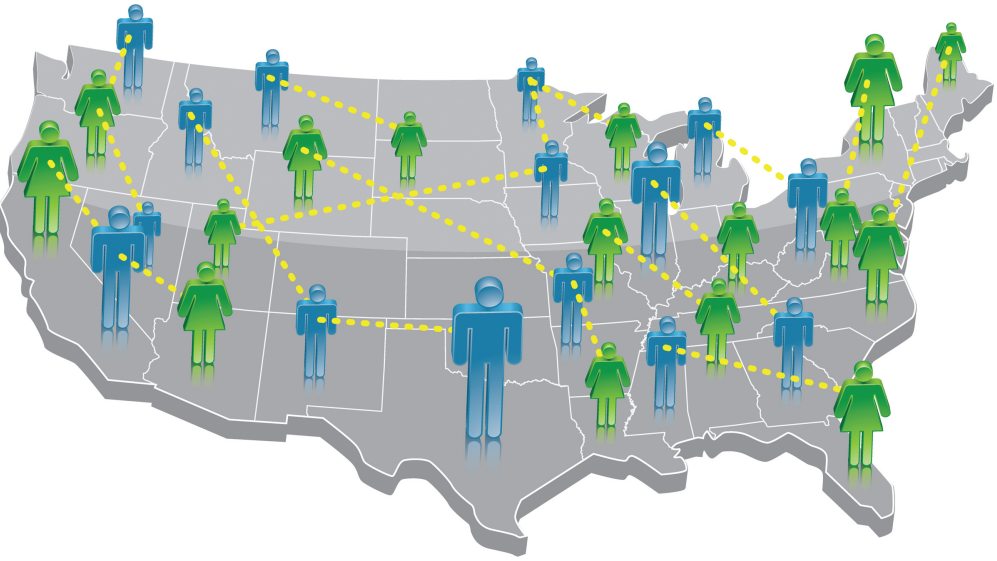
The Interface



PERSONALITY DISORDERS: A Nation-based Perspective on Prevalence

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This ongoing column is dedicated to the challenging clinical interface between psychiatry and primary care—two fields that are inexorably linked.

ABSTRACT

To date, five major studies have examined the prevalence and type of personality disorders in community samples in the United States. According to the majority of studies, the overall prevalence of Axis II disorders in the general population is consistently around 10 percent. According to the most recent study, obsessive-compulsive personality disorder is the most frequent Axis II disorder in community samples in the United States, followed by narcissistic and borderline personality disorders. In contrast to studies in the United States, community prevalence rates of personality disorders in other countries show moderately wide variation, from 6.1 to 13.4 percent; yet, the averaging of these two low/high percentages results in 9.7 percent. The most common type of personality pathology in a given country varies, and this variance may be accounted for in a number of relevant ways.

KEY WORDS

Axis II, personality disorders, prevalence

INTRODUCTION

Personality disorders affect a significant minority of individuals and may influence overall clinical management, whether in psychiatric or primary care settings. In this edition of The Interface, we present the data on the community prevalence of personality disorders, both in the United States and elsewhere. When possible, we have included the prevalence rates for individual Axis II disorders as well as overall rates.

STUDIES OF PREVALENCE IN THE UNITED STATES

Since the debut of the third edition of the *Diagnostic and Statistical Manual of Mental Disorders*[1] (*DSM-III*) and the corresponding standardization of the personality disorder diagnoses, several studies have examined the prevalence of Axis II disorders in community populations in the United States. Excluding clinical samples and studies in adolescents, five investigations are germane to our discussion and are discussed in the following paragraphs.

The Iowa Study. Beginning in chronological order with the earliest investigation, the Iowa Study was the first (1989) to examine the prevalence of personality disorders in a community sample. In this study, Reich, Yates, and Nduaguba analyzed 235 mailed questionnaires from a randomized sample of over 36 thousand adults in an Iowa community.[2] Personality disorders were assessed with the Personality Disorder Questionnaire (PDQ),[3] a 152-item, self-report, true/false measure that assesses the personality disorders identified in the *DSM-III*.[1] In this study, the

TABLE 1. Studies on the prevalence (%) of personality disorders in community samples in the United States

STUDY (YEAR)	PAR	SCHIZ	SCHIZOT	ASP	BOR	HIS	NAR	AV	DEP	OC	OVERALL
NESARC (2008/09)	4.4	3.1	3.9	3.6	5.9	1.8	6.2	2.4	0.5	7.9	?
NCS-R (2007)	2.3	4.9	3.3	1	1.6	0	0	5.2	0.6	2.4	9.1
Baltimore Study* (2002)	0.7	0.7	1.8	4.5	1.2	0.4	0.1	1.4	0.3	1.2	10.0
LSPD (1997)	1	1	1.6	0.6	1.3	2.9	2.7	1	0.6	1.3	11.0
Iowa Study (1989)	0.9	1.3	13.2	0.4	1.3	3.8	0.4	0.4	14.5	14.9	11.1**

*unweighted prevalence rates

**age adjusted

KEY: ASP=antisocial personality disorder; AV=avoidant personality disorder; BOR=borderline personality disorder; DEP=dependent personality disorder; HIS=histrionic personality disorder; LSPD=Longitudinal Study of Personality Disorders (Lenzenweger, 1997); NAR=narcissistic personality disorder; NCS-R=National Comorbidity Survey-Replication (Lenzenweger, 2007); NESARC=National Epidemiologic Survey on Alcohol and Related Conditions (Grant, 2008; Grant, 2008; Stinson, 2008; Pulay, 2009); OC=obsessive-compulsive personality disorder; PAR=paranoid personality disorder; SCHIZ=schizoid personality disorder; SCHIZOT=schizotypal personality disorder; some individuals may have met the criteria for more than one personality disorder.

overall prevalence of personality disorders was 11.1 percent. The prevalence rates for the individual personality disorders are shown in Table 1.

The Longitudinal Study of Personality Disorders. Sponsored by the National Institute of Mental Health, the Longitudinal Study of Personality Disorders was the first longitudinal examination of personality pathology of its kind and initially explored the prevalence of personality disorders in a university population of 2000.[4] The methodology of this 1997 study entailed a screening procedure for Axis II disorders, followed by a clinician-administered interview with the International Personality Disorder Examination.[5] As a brief overview, the International Personality Disorder Examination is arranged in various sections (e.g., background information, work, self, interpersonal relationships) that begin with open-ended inquiries by the examiner. In terms of findings, personality disorder status is reported as definite, probable, or negative for each Axis II disorder. Using this measure, the overall prevalence of personality disorders in this young community sample was 11.0 percent. The rates for individual personality disorders are shown in Table 1.

The Baltimore Study. Using the previously described measure, the International Personality Disorder Examination,[6] Samuels et al[7] examined the prevalence of personality disorders in a community sample of 742 adults residing in the Baltimore city area. According to these data, which were published in 2002, the overall prevalence of personality disorders in this sample was 10.0 percent. Rates for individual personality disorders are shown in Table 1.

The National Comorbidity Survey-Replication. The National Comorbidity Survey-Replication,[8] which was undertaken in 2001 to 2002, was essentially an update of the National Comorbidity Survey (1990–1992), which was the first nationally representative mental health survey ever undertaken in

the United States. During this second population survey, which was based upon an initial screening of 5,692 community individuals, a probability subsample was identified and then interviewed using the International Personality Disorder Examination.[5,6] The prevalence of personality disorders in this subsequent community sample was 9.1 percent; the prevalence rates of the individual personality disorders are shown in Table 1.

The National Epidemiologic Survey on Alcohol and Related Disorders. Sponsored by the United States Department of Health and Human Services, the National Institutes of Health, and the National Institute on Alcohol Abuse and Alcoholism, the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) was designed to determine the magnitude of alcohol use disorders in the general population (i.e., in a sample of noninstitutionalized persons, ages 18 years or older) as well as associated psychiatric comorbidities and disabilities. NESARC was a longitudinal endeavor with the first wave of interviews undertaken in 2001 to 2002 and a second wave of interviews undertaken in 2004 to 2005. During the first wave of interviews, the prevalence rates of avoidant, dependent, obsessive-compulsive, histrionic, paranoid, schizoid, and antisocial personality disorders were determined.[9] During the second wave of interviews, the prevalence rates of schizotypal,[10] narcissistic,[11] and borderline[12] personalities were determined. To our knowledge, the overall prevalence of personality disorders in this Time-1/Time-2 sample was never reported, but the prevalence of the seven first-wave Axis II disorders was collectively reported at 14.8 percent. The individual prevalence rates of the DSM personality disorders are shown in Table 1.

GENERAL IMPRESSIONS OF US PREVALENCE STUDIES

In comparing the five samples shown in Table 1, one important observation is that the rates for individual personality disorders and the most prevalent Axis II disorder for a given study appear to vary from survey to survey. Some of this variation may be attributed to methodological differences (i.e., the use of different Axis II measures, varying community populations, and different clinician interviewers).

As a second finding, over this 20-year period of personality-disorder investigation, some personality disorders have seemingly receded in frequency whereas other personality disorders have seemingly increased in frequency. Whether this observation is a methodological artifact or represents the possibility that personality pathology is somehow tempered by the sociocultural time period of its expression has, to our knowledge, never undergone any investigation.

Next, note that the overall rates of personality pathology, as determined by the four earlier studies, are remarkably close. This is particularly impressive given the different populations, assessment instruments, and investigative groups. Excluding the NESARC data (recall that there was no overall reported prevalence data for this study), findings consistently indicate that about 10 percent of the general population suffers from Axis II psychopathology.

Finally, according to findings of the most contemporary study (NESARC), the most common personality disorder in the United States is presently obsessive-compulsive personality (7.9%), followed by narcissistic (6.2%) and borderline (5.9%) personality disorders.

PERSONALITY DISORDERS IN OTHER COUNTRIES

We will next review international studies on the prevalence of personality disorders in foreign community samples. As in the previous section on studies from the United States, we will review these international studies in chronological order, beginning with the oldest study. Prevalence data from these studies are summarized in Table 2. For the World Health Organization endeavor, rates were reported by Axis II clusters, only. For the Iceland study, only three percentages were reported and the original article is in not available in English.

The Australian National Survey of Mental Health and Wellbeing. Conducted by the Australian Bureau of Statistics in 1997, the National Survey of Mental Health and Wellbeing was administered to a randomized adult sample of over 10,000 individuals[13] who were interviewed for Axis II assessment using the International Personality Disorder Examination[5,6] screening instrument. In this case, findings were classified according to the personality disorders listed in the *International Classification of Diseases, Tenth Edition* (*ICD-10*). In this study, the overall prevalence of personality psychopathology was 6.6 percent, with obsessive-compulsive personality disorder being the most frequent Axis II disorder in the Australian population.

Norwegian data. Torgersen et al[14] examined the prevalence of personality disorders in a representative sample of over 2,000 Norwegian adults residing in the Oslo area. Using the Structured

TABLE 2. Studies on the prevalence (%) of personality disorders in community samples in non-US countries

COUNTRY (FIRST AUTHOR)	PAR	SCHIZ	SCHIZOT	ASP	BOR	HIS	NAR	AV	DEP	OC	OVERALL
WHO* Colombia Lebanon Mexico Nigeria China S. Africa US W. Europe Overall	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	7.9 6.2 6.1 2.7 4.1 6.8 7.6 2.4 6.1
Iceland (Lindal)	n/a	n/a	9.0	n/a	n/a	n/a	n/a	n/a	n/a	7.3	11.0 to 12.0
Norway (Torgersen)	2.4	1.7	0.6	0.7	0.7	2.0	0.8	5.0	1.5	2.0	13.4
Australia (Jackson)	1.3	1.9	n/a	n/a	1.0	0.5	n/a	n/a	1.0	3.1	6.6

*Prevalence rates reported by personality disorder clusters, only

KEY: ASP=antisocial personality disorder; AV=avoidant personality disorder; BOR=borderline personality disorder; DEP=dependent personality disorder; HIS=histrionic personality disorder; NAR=narcissistic personality disorder; OC=obsessive-compulsive personality disorder; PAR=paranoid personality disorder; SCHIZ=schizoid personality disorder; SCHIZOT=schizotypal personality disorder; WHO=World Health Organization; some individuals may have met the criteria for more than one personality disorder.

Interview for DSM-III-R Personality Disorders,[15] researchers determined that the overall prevalence of personality disorders in this sample was 13.4 percent, with avoidant personality disorder being most common, followed by paranoid personality disorder.

The Icelandic Study. Lindal and Stefansson examined the prevalence of personality disorders in a sample of 805 individuals who were randomly selected from the greater Reykjavik area.[16] According to Axis II diagnoses from the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*[17] and *ICD-10*, prevalence rates were 11 percent and 12 percent, respectively, with schizotypal personality being most common, followed by obsessive-compulsive personality disorder.

The World Health Organization World Mental Health Surveys. In this cross-national study sponsored by the World Health Organization, researchers examined the prevalence of personality disorders in community samples from 13 countries (e.g., Colombia, Lebanon, Mexico, Nigeria, China, South Africa, the United States, Belgium, France, Germany, Italy, the Netherlands, Spain).[18] Using the International Personality Disorder Examination,[5,6] prevalence rates were reported as overall and by Axis II clusters. While rates ranged from 2.4 to 7.9 percent, the average prevalence among the 13 countries was 6.1 percent, with clusters A, B, and C at 3.6 percent, 1.5 percent, and 2.7 percent, respectively.

General Impressions of International Prevalence Studies. A number of conclusions may be drawn from the data in Table 2. First, unlike the prevalence studies undertaken in the United States, prevalence rates from other countries show greater variance—from 2.4 to 7.9 percent—a three-fold difference.

Second, the most common personality disorder in a given culture oftentimes differs from other cultures. For example, while obsessive-compulsive personality

disorder is the most common Axis II disorder in the United States and Australia, avoidant personality disorder is most common in Norway and schizotypal personality disorder is most common in Iceland. What might account for these variations in prevalence? Again, methodology as well as cultural differences in the recognition and detection of personality disorders may offer a partial explanation. However, other possible explanations need to be entertained, as well. For example, Jackson and Jovev indicate that culture may exert "manifold influences on personality and personality disorders."[19] This, alone, may alter the ultimate prevalence of an Axis II disorder in a country. In support of this perspective, Paris argues that traditional societies are more likely to garner dependency to ensure cohesion whereas Western societies tend to reinforce narcissism and discourage dependency.[20] Current events may also influence the rates of personality pathology. According to Jackson and Jovev, in war-torn countries, antisocial personality may allow for a distinct survival advantage, ultimately resulting in a population offset.[19] Finally, Jackson and Jovev propose that particular cultures may attract individuals with specific personality disorders and offer the example of the gravitation of histrionic and narcissistic personalities toward the entertainment industry (a micro-culture). These explanations do not exclude the possibility of localized geographic genetic pools, as well.

CONCLUSIONS

According to the findings of five studies spanning over a 20-period, the prevalence of personality disorders in the United States is at least 10 percent (note that the possible exception is the most recent study, in which the overall prevalence rate was not reported). According to the most recent study, obsessive-compulsive personality disorder is the most frequent Axis II disorder in community populations in the United States, followed by narcissistic and borderline personality disorders. As for international data, prevalence rates vary from 6.1 to 13.4 percent, which, when both ends are averaged, yield 9.7 percent. The most common personality disorder varies from country to country, and there may be a number of plausible explanations to explain this variance. Overall, having a sense of the community prevalence of Axis II disorders may help temper clinicians' expectations regarding the various personality types likely to be encountered in their respective practices, either psychiatric or primary care.

REFERENCES

1. American Psychiatric Asssociation. *Diagnostic and Statistical Manual of Mental Disorders, Third Edition.* Washington, DC: American Psychiatric Press Inc.; 1980.
2. Reich J, Yates W, Nduaguba M. Prevalence of DSM-III personality disorders in the community. *Soc Psychiatry Psychiatr Epidemiol.* 1989;24:12–16.
3. Hyler S, Rieder R, Spitzer R. *Personality Diagnostic Questionnaire (PDQ).* New York: New York State Psychiatric Institute; 1983.
4. Lenzenweger MF, Loranger AW, Korfine L, Neff C. Detecting personality disorders in a nonclinical population. Application of a 2-stage procedure for case identification. *Arch Gen Psychiatry.* 1997;54:345–351.
5. Loranger AW. *International Personality Disorders Examination: DSM-III and ICD-10 Interviews.* Odessa, Florida: Psychological Assessment Services; 1999.
6. Loranger AW, Sartorius N, Andreoli A, et al. The International Personality Disorder Examination. The World Health Organization/Alcohol, Drug Abuse, and Mental Health Administration international pilot study of personality disorders. *Arch Gen Psychiatry.* 1994;51:215–224.
7. Samuels J, Eaton WW, Bienvenu OJ 3rd, et al. Prevalence and correlates of personality disorders in a community sample. *Br J Psychiatry.* 2002;180:536–542.
8. Lenzenberger MF, Lane MC, Loranger AW, Kessler RC. DSM-IV personality disorders in the National Comorbidity Survey Replication. *Biol Psychiatry.* 2007;15:553–564.
9. Grant BF, Stinson FS, Dawson DA, et al. Co-occurrence of 12-month alcohol and drug use disorders and personality disorders in the United States. *Arch Gen Psychiatry.* 2004;61:361–368.
10. Pulay AJ, Stinson FS, Dawson DA, et al. Prevalence, correlates, disability, and comorbidity of DSM-IV schizotypal personality disorder: results from the Wave 2 National Epidemiologic Survey on Alcohol and Related Conditions. *Prim Care Companion J Clin Psychiatry.* 2009;11:53–67.
11. Stinson FS, Dawson DA, Goldstein RB, et al. Prevalence, correlates, disability, and comorbidity of DSM-IV narcissistic personality disorder: results from the Wave 2 National Epidemiologic Survey on Alcohol and Related Conditions. *J Clin Psychiatry.* 2008;69:1033–1045.
12. Grant BF, Chou SP, Goldstein RB, et al. Prevalence, correlates, disability, and comorbidity of DSM-IV borderline personality disorder: results from the Wave 2 National

Epidemiologic Survey on Alcohol and Related Conditions. *J Clin Psychiatry.* 2008;69:533–545.
13. Jackson HJ, Burgess PM. Personality disorders in the community: a report from the Australian National Survey of Mental Health and Wellbeing. *Soc Psychiatry Psychiatr Epidemiol.* 2000;35:531–538.
14. Torgersen S, Kringlen E, Cramer V. The prevalence of personality disorders in a community sample. *Arch Gen Psychiatry.* 2001;58:590-596.
15. Spitzer RL, Williams JB, Gibbon M, First MB. The Structured Clinical Interview for DSM-III-R (SCID). I: history, rationale, and description. *Arch Gen Psychiatry.* 1992; 49:624–629.
16. Lindal E, Stefansson JG. The prevalence of personality disorders in the greater-Reykjavik area. *Laeknabladid.* 2009;95:179–184.
17. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition.* Washington, DC: American Psychiatric Press, Inc.; 1994.
18. Huang Y, Kotov R, de Girolamo G, et al. DSM-IV personality disorders in the WHO World Mental Health Surveys. *Br J Psychiatry.* 2009;195:46–53.
19. Jackson HJ, Jovev M. Personality disorder constructs and conceptualizations. In: Sansone RA, Levitt JL (eds). *Personality Disorders and Eating Disorders. Exploring the Frontier.* New York: Routledge; 2006:3–20.
20. Paris J. Personality disorders in sociocultural perspective. *J Pers Disord.* 1998;12:289–301.

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